

### AMENDMENTS TO THE CLAIMS

1.-30. (Canceled)

31. (Currently Amended) In a signal processor for processing at least two measured signals  $M_1$  and  $M_2$ , where said signal  $M_1$  comprises a physiological signal portion  $S_1$  and may comprise a noise portion  $N_1$ , and where said signal  $M_2$  comprises a physiological signal portion  $S_2$  and may comprise a noise portion  $N_2$ , a method comprising:

determining a value for a coefficient  $c$  used in a combination of  $M_1$  and  $M_2$  such that the combination of  $M_1$  and  $M_2$  approximates  $S_1$ , wherein determining the coefficient  $c$  comprises comparing frequency domain representations of the two measured signals  $M_1$  and  $M_2$ ;

using said coefficient  $c$  to remove at least some of the noise portion  $N_1$  from the measured signal  $M_1$ , thereby producing an approximation  $A_1$  to said physiological signal  $S_1$ ; and

determining a measured output ~~value~~ value for one or more physiological parameters based at least in part on said approximation  $A_1$ .

32. (Previously Presented) The method of Claim 31, where  $A_1$ ,  $M_1$  and  $M_2$  comprise frequency domain signals.

33. (Previously Presented) The method of Claim 31, further comprising displaying  $A_1$  on a display.

34. (Canceled)

35. (Currently Amended) The method of Claim ~~[[34]]~~ 31, wherein said physiological parameter comprises arterial oxygen saturation.

36. (Canceled)

37. (Previously Presented) The method of Claim 32, wherein  $S_1$  is indicative of a heart plethysmograph, further comprising calculating a pulse rate of the heart.

38. (Previously Presented) The method of Claim 31, further comprising determining, based upon the comparison of  $M_1$  and  $M_2$ , whether  $M_1$  comprises  $N_1$ .

39. (Currently Amended) The method of Claim 38, ~~further comprising wherein said value for the coefficient c is selected to reduce its effect disabling said usage of c to remove at least some of the noise portion  $N_1$  if  $M_1$  does not comprise  $N_1$ .~~

40. (Previously Presented) The method of Claim 31, wherein the combination of  $M_1$  and  $M_2$  comprises a linear combination of  $M_1$  and  $M_2$ .

41. (Previously Presented) The method of Claim 40, wherein the linear combination of  $M_1$  and  $M_2$  comprises  $cM_1 - M_2$  such that  $A_1 = cM_1 - M_2$ .

42. (Previously Presented) The method of Claim 41, wherein an error value,  $e$ , given by the relation  $e = S_1 - (cM_1 - M_2)$  is reduced.

43. (Previously Presented) The method of Claim 31, wherein comparing the two measured signals  $M_1$  and  $M_2$  comprises calculating ratios of values of a frequency domain representation of  $M_1$  to corresponding values of a frequency domain representation of  $M_2$ .

44. (Previously Presented) The method of Claim 43, wherein said ratios are calculated using values that correspond to peaks in said frequency domain representations of  $M_1$  and  $M_2$ .

45. (Currently Amended) The method of Claim 43, ~~wherein determining whether  $M_1$  comprises  $N_1$  comprises~~ further comprising determining whether the ratios have a predetermined degree of similarity.

46. (Currently Amended) The method of Claim 31, comprising displaying the measured output ~~value~~ value on a display.